DATA VALIDATION REPORT

CITY OF HELENA LANDFILL

for Groundwater Organic Samples Collected in

March 2008
(Quarterly Sampling)

Prepared by
Hydrometrics, Inc.
3020 Bozeman Avenue
Helena, MT 59601

May 2008

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MAY 14 2008
Dept. of Enviro. Quality
Waste & Underground
Tank Management Bureau

Hydrometrics, Inc.
consulting scientists and engineers

3020 Bozeman Avenue
Helena, MT 59601
(406) 443-4150
Fax: (406) 443-4155
www.hydrometrics.com

May 13, 2008

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Ms. Mary Louise Hendrickson
Environmental Science Specialist
Montana Department of Environmental
Quality (MDEQ)
Solid Waste Regulatory Program
P.O. Box 200901
Helena, MT 59620-0901

RE: Results of March 2008 Groundwater Sampling

Dear Mary Louise:

Enclosed for your information is the data validation report including the field notes and copies of the lab data sheets for the quarterly groundwater samples collected for the Helena Landfill in March 2008. If you have any questions concerning this data, please don't hesitate to call.

Sincerely,

Jodi Bingham, P.E.
Environmental Engineer/Chemist

Enclosure

c: Mike Wignot, Hydrometrics
Ben Sautter, City of Helena

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GLOSSARY OF TERMS

CCB.....Continuing Calibration Blank
CCV .....Continuing Calibration Verification
CLP .....Contract Laboratory Program
CRDL.....Contract Required Detection Limit
FAA .....Flame Atomic Absorption
GFAA.....Graphite Furnace Atomic Absorption
HGAA.....Hydride Generation Atomic Absorption
ICB.....Initial Calibration Blank
ICP .....Inductively Coupled Plasma
ICV.....Initial Calibration Verification
IDL.....Instrument Detection Limit
LCS .....Laboratory Control Sample
MSA.....Method of Standard Additions
PB.....Preparation Blank
PRDL .....Project Required Detection Limit
QAPP .....Quality Assurance Project Plan
QC.....Quality Control
RPD.....Relative Percent Difference
RSD.....Relative Standard Deviation
SOW.....Statement of Work
TDS.....Total Dissolved Solids

SUMMARY

Groundwater samples collected for the City of Helena Landfill on March 24 and 31, 2008, have been validated in accordance with the project work plan, "Revised Sampling and Analysis Plan; City of Helena Landfill; Groundwater, Surface Water, and Landfill Gas Monitoring Activities" (Hydrometrics, April 2006).

The data quality objectives for accuracy and precision were met, as 100 percent of the field quality control sample results were within control limits. Completeness as evaluated according to the work plan (number of valid measurements per number of measurements planned), was 100 percent. Further discussion of data quality objectives is in Section 10 of the data validation report. Appendix 1 includes Table 1: Data Validation Codes and Definitions. A database printout of this sampling event can be found in Appendix 2. The Hydrometrics field notes are in Appendix 3. Energy Laboratories Analytical Reports are located in Appendix 4.

DATA VALIDATION REPORT

1. INTRODUCTION

This validation applies to organic analytes for five water samples collected for the City of Helena Landfill quarterly monitoring project during the March 2008 quarterly sampling event. The total number of samples included: one duplicate, and one trip blank.

- Validation procedures used are generally consistent with:
  (Check all that apply)
  - ___ EPA CLP National Functional Guidelines for Inorganics Data Review
  - _X_ EPA CLP National Functional Guidelines for Organic Data Review
  - _X_ Work Plan (Sampling and Analysis Plan, City of Helena Landfill Groundwater Monitoring Activities, Hydrometrics, April 2006)

- Overall level of validation:
  - ___ Contract Laboratory Program (CLP)
  - _X_ Standard
  - ___ Visual

  The review of this data includes checking all field and laboratory quality control samples; flagging for exceedances in field quality control; and calculating precision, accuracy, and completeness for both laboratory and field quality control samples.

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW), EPA, 1993 and/or the project contract.
  _X_Yes
  ___No

- All documentation of field procedures was provided as required.
  _X_Yes
  ___No

3. FIELD QUALITY CONTROL SAMPLES

Blanks: Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency.
_X_Yes
___No

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project required detection limits (PRDL) if project detection limits have been specified.

_X_Yes
___No

- **Field duplicates**

  Field duplicates have been collected at the proper frequency.

  _X_Yes
  ___No

  Field duplicate relative percent differences (RPD's) were within the required control limits (RPD of 20% or less for water matrix, 35% or less for soil matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate results must be within ± the PRDL for water matrix, within ± 2 times the PRDL for soil matrix.

  _X_Yes
  ___No

- **Field standards**

  Field standards were sent at the proper frequency

  ___Yes
  ___No
  _X_NA - Not required by the work plan.

4. **LABORATORY PROCEDURES**

- **Laboratory procedures followed**

  ___ CLP-SOW
  _X_ SW-846
  ___ Methods for Chemical Analysis of Water and Wastes
  ___ XRF Standard Operating Procedures
  ___ Other

- **Samples were received by the laboratory at the proper temperature**

  _X_Yes
  ___No

- **Holding times met**

  _X_Yes
  ___No

- **Consistency with project requirements**

  Analyses were carried out as requested.

  _X_Yes
  ___No

Project specified methods were used.
_X_Yes
___No

5. **DETECTION LIMITS**

- Reporting detection limits met project required detection limits (PRDLs).
  _X_Yes
  ___No

6. **LABORATORY BLANKS**

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

- **Reagent blanks**

  Reagent blanks were prepared and analyzed at the required frequency.
  _X_Yes
  ___No

  All analytes in the reagent blank were less than the CRDL (or PRDL if a project detection limit has been specified).
  _X_Yes
  ___No

7. **LABORATORY BLANK SPIKES**

- **Blank Spikes**

  Blank spikes (organics) were prepared and analyzed at the required frequency.
  _X_Yes
  ___No

  Blank spike recoveries were within control limits.
  _X_Yes
  ___No

- **Surrogate Spikes**

  Surrogate spikes were prepared and analyzed at the required frequency.
  _X_Yes
  ___No

  Surrogate spike recoveries were within control limits.
  _X_Yes
  ___No

8. MATRIX SPIKE /MATRIX SPIKE DUPLICATES (MS/MSD)

MS/MSD samples were analyzed at the proper frequency.
_X_Yes
___No

Matrix spike duplicate RPD's were within control limits.
___Yes
_X_No (Notes)

MS/MSD samples were within laboratory control limits.
___Yes
_X_No (Notes)

NOTES: Both matrix spike and matrix spike duplicate samples had several QC exceedances. These exceedances are only noted and no flagging of the associated data occurs.

9. HISTORICAL COMPARISON

Current sampling event data were compared to historical data (March 2005 through February 2008). In general, the data for this sampling event showed limited changes. Table 2 summarizes the sampling period data to the period of record data, showing values that are highest or lowest, or three or more standard deviations from the mean of the period of record.

10. DATA QUALITY OBJECTIVES

- **Project data quality objectives (DQO's) met.**

_X_Yes
___No

Accuracy

Accuracy for this project is the agreement between a measured value and a true value and is measured by the recoveries on the laboratory matrix spikes and laboratory control samples. Accuracy for this sampling event was 100 percent.

Precision

Precision for this project is the degree of variability between duplicate measurements. Laboratory analytical variability is measured by laboratory duplicates; field duplicates are a measure of overall variability in both field sampling and laboratory techniques. Laboratory and field precision was 100 percent for this sampling event.

Completeness

The target completeness for this project is 90 percent of the measurements valid (not rejected). This percentage is based on the number of valid measurements compared to the number of planned measurements. Completeness for this sampling event was 100 percent.

DATA VALIDATION REPORT

Prepared by: Ericka Vallance

REFERENCES

Hem, J.D., 1992. Study and Interpretation of the Chemical Characteristics of Natural Water, 3rd Edition. US Geological Survey Water Supply Paper 2254.

Hydrometrics Project Revised Sampling and Analysis Plan; City of Helena Landfill; Groundwater, Surface Water, and Landfill Gas Monitoring Activities, April 2006.

U.S. Environmental Protection Agency, 1990. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition.

U.S. Environmental Protection Agency, 1993. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. October 2004.

U.S. Environmental Protection Agency, 1994. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. October 2004.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

CODE		DEFINITION
J	-	The associated numerical value is an estimated quantity because quality control criteria were not met.
U	-	Blank contamination. Indicates possible high bias and / or false positive. The associated value is an estimate.
R	-	Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.
A	-	Anomalous data. No apparent explanation for discrepancy in data. (Not an EPA code.)

TABLE 2.0

SUMMARY OF THE COMPARISON OF SAMPLING PERIOD DATA TO THE DATABASE PERIOD DATA, SHOWING PARAMETERS THAT ARE HIGHEST OR OR LOWEST OR THREE OR MORE STANDARD DEVATIONS FROM THE MEAN OF THE DATABASE PERIOD AND THE RELATIONSHIP TO THESE DATA

DataMan Program

CITY OF HELENA HISTORICAL COMPARISON

SITE	SAMPLE DATE	RESULT mg/L	PARAMETER	COMPARISON DATABASE PERIOD	N	MIN (mg/L)	MEAN (mg/L)	MAX (mg/L)	STD DEVS FROM MEAN	RELATION TO DATABASE PERIOD
5	03/31/2008	0.0039	TETRACHLOROETHENE	03/10/2005-12/19/2007	12	0.0025	0.0032	0.0036	1.92	HIGHEST
HL-99-1	03/31/2008	0.0028	CHLOROFORM	03/10/2005-12/21/2007	10	0.003	0.0034	0.0041	1.70	LOWEST
		0.0045	TETRACHLOROETHENE	03/10/2005-12/21/2007	10	0.0027	0.0034	0.0044	2.03	HIGHEST
HL-99-3	03/24/2008	0.0017	TRICHLOROETHENE	03/10/2005-12/20/2007	12	0.001	0.0013	0.0017	2.01	HIGHEST

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results LABORATORY unless field (FLD) or calculated (CALC).
N: Number of samples in comparison data set; 50% of data set must be above lab detection limit before mean, median, & SD calculation.
A & R Flags were excluded from Statistics 1/2 the detection limit was used in calculations.

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APPENDIX 2

DATABASE

CHHL01 - City of Helena

ANALYSES SUMMARY REPORT

INDEX

Page	Site Code	Site Name	Site Type	Elevation MP	Well Depth
3	5	350 Custer Ave - S. Colvin	Private Well		
1	HL-90-1	HL-90-1	Monitoring Wells	3942.48	68.0
1	HL-99-1	HL-99-1	Monitoring Wells		
1	HL-99-2	HL-99-2	Monitoring Wells		
1	HL-99-3	HL-99-3	Monitoring Wells		
5	TRIPBLANK	TRIP BLANK	Quality Control		

Sample Type: Monitoring Wells

SITE CODE	HL-90-1	HL-90-1	HL-99-1	HL-99-2	HL-99-3
SAMPLE DATE	03/31/2008	03/31/2008	03/31/2008	03/31/2008	03/24/2008
SAMPLE TIME	17:45	18:45	18:30	18:10	10:20
LAB	EL	EL	EL	EL	EL
LAB NUMBER	8040002002	8040002006	8040002004	8040002003	8040002005
REMARKS		DUPLICATE			
SAMPLE NUMBER	HL-0803-101	HL-0803-105	HL-0803-103	HL-0803-102	HL-0803-104
-- PHYSICAL PARAMETERS --					
DEPTH TO WATER LEVEL (FEET)	53.98		54.27	55.26	51.28
PH (FLD)	7.2		7.05	7.21	7.15
SC (UMHOS/CM AT 25 C) (FLD)	1140.0		1125.0	940.0	932.0
WATER TEMPERATURE (C) (FLD)	10.0		11.5	11.2	11.3
-- VOLATILE ORGANICS --					
1,1,1,2-TETRACHLOROETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-TRICHLOROETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-TETRACHLOROETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-TRICHLOROETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-DICHLOROETHANE	0.0016	0.0019	<0.001	0.003	0.0031
1,1-DICHLOROETHENE	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-DIBROMOETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-DICHLOROETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-DICHLOROPROPANE	<0.001	<0.001	<0.001	<0.001	<0.001
2-HEXANONE	<0.02	<0.02	<0.02	<0.02	<0.02
ACETONE	<0.02	<0.02	<0.02	<0.02	<0.02
ACRYLONITRILE	<0.02	<0.02	<0.02	<0.02	<0.02
BENZENE	<0.001	<0.001	<0.001	<0.001	<0.001
BROMOCHLOROMETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
BROMODICHLOROMETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
BROMOFORM	<0.001	<0.001	<0.001	<0.001	<0.001
BROMOMETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
CARBON DISULFIDE	<0.001	<0.001	<0.001	<0.001	<0.001
CARBON TETRACHLORIDE	<0.001	<0.001	<0.001	<0.001	<0.001
CHLOROBENZENE	<0.001	<0.001	<0.001	<0.001	<0.001
CHLORODIBROMOMETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
CHLOROETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
CHLOROFORM	0.0015	0.0017	0.0028	0.0025	0.0026
CHLOROMETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
CIS-1,2-DICHLOROETHENE	<0.001	<0.001	0.0017	<0.001	<0.001
CIS-1,3-DICHLOROPROPENE	<0.001	<0.001	<0.001	<0.001	<0.001
DIBROMOMETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
DICHLORODIFLUOROMETHANE	<0.001	<0.001	<0.001	0.0033	0.0017
ETHYLBENZENE	<0.001	<0.001	<0.001	<0.001	<0.001
IODOMETHANE	<0.001	<0.001	<0.001	<0.001	<0.001
TOTAL XYLENE	<0.001	<0.001	<0.001	<0.001	<0.001
M-P XYLENE	<0.001	<0.001	<0.001	<0.001	<0.001
O-XYLENE	<0.001	<0.001	<0.001	<0.001	<0.001
METHYL ETHYL KETONE	<0.02	<0.02	<0.02	<0.02	<0.02
METHYL ISOBUTYL KETONE	<0.02	<0.02	<0.02	<0.02	<0.02
METHYLENE CHLORIDE	<0.001	<0.001	<0.001	<0.001	<0.001
STYRENE	<0.001	<0.001	<0.001	<0.001	<0.001
TETRACHLOROETHENE	0.0053	0.0058	0.0045	0.0068	0.0083
TOLUENE	<0.001	<0.001	<0.001	<0.001	<0.001
TRANS-1,2-DICHLOROETHENE	<0.001	<0.001	<0.001	<0.001	<0.001
TRANS-1,3-DICHLOROPROPENE	<0.001	<0.001	<0.001	<0.001	<0.001
TRICHLOROETHENE	0.0011	0.0013	<0.001	0.0016	0.0017
TRICHLOROFLUOROMETHANE	<0.001	<0.001	<0.001	0.001	<0.001
VINYL ACETATE	<0.001	<0.001	<0.001	<0.001	<0.001
VINYL CHLORIDE	<0.001	<0.001	<0.001	<0.001	<0.001
-- SEMI-VOLATILE EXTRACTABLES --					
1,2,3-TRICHLOROPROPANE	<0.001	<0.001	<0.001	<0.001	<0.001

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance; R:Rejected.

Sample Type: Monitoring Wells

SITE CODE	HL-90-1	HL-90-1	HL-99-1	HL-99-2	HL-99-3
SAMPLE DATE	03/31/2008	03/31/2008	03/31/2008	03/31/2008	03/24/2008
SAMPLE TIME	17:45	18:45	18:30	18:10	10:20
LAB	EL	EL	EL	EL	EL
LAB NUMBER	8040002002	8040002006	8040002004	8040002003	8040002005
REMARKS		DUPLICATE			
SAMPLE NUMBER	HL-0803-101	HL-0803-105	HL-0803-103	HL-0803-102	HL-0803-104
-- SEMI-VOLATILE EXTRACTABLES --					
1,2-DIBROMO-3-CHLOROPROPANE	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-DICHLOROBENZENE	<0.001	<0.001	<0.001	<0.001	<0.001
TRANS-1,4-DICHLORO-2-BUTENE	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-DICHLOROBENZENE	<0.001	<0.001	<0.001	<0.001	<0.001

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

Sample Type: Private Well

SITE CODE	5
SAMPLE DATE	03/31/2008
SAMPLE TIME	11:45
LAB	EL
LAB NUMBER	8040002001
SAMPLE NUMBER	HL-0803-100

-- PHYSICAL PARAMETERS --	
PH (FLD)	7.11
SC (UMHOS/CM AT 25 C) (FLD)	1087.0
WATER TEMPERATURE (C) (FLD)	12.4
-- VOLATILE ORGANICS --	
1,1,1,2-TETRACHLOROETHANE	<0.001
1,1,1-TRICHLOROETHANE	<0.001
1,1,2,2-TETRACHLOROETHANE	<0.001
1,1,2-TRICHLOROETHANE	<0.001
1,1-DICHLOROETHANE	<0.001
1,1-DICHLOROETHENE	<0.001
1,2-DIBROMOETHANE	<0.001
1,2-DICHLOROETHANE	<0.001
1,2-DICHLOROPROPANE	<0.001
2-HEXANONE	<0.02
ACETONE	<0.02
ACRYLONITRILE	<0.02
BENZENE	<0.001
BROMOCHLOROMETHANE	<0.001
BROMODICHLOROMETHANE	<0.001
BROMOFORM	<0.001
BROMOMETHANE	<0.001
CARBON DISULFIDE	<0.001
CARBON TETRACHLORIDE	<0.001
CHLOROBENZENE	<0.001
CHLORODIBROMOMETHANE	<0.001
CHLOROETHANE	<0.001
CHLOROFORM	0.0029
CHLOROMETHANE	<0.001
CIS-1,2-DICHLOROETHENE	<0.001
CIS-1,3-DICHLOROPROPENE	<0.001
DIBROMOMETHANE	<0.001
DICHLORODIFLUOROMETHANE	<0.001
ETHYLBENZENE	<0.001
IODOMETHANE	<0.001
TOTAL XYLENE	<0.001
M-P XYLENE	<0.001
O-XYLENE	<0.001
METHYL ETHYL KETONE	<0.02
METHYL ISOBUTYL KETONE	<0.02
METHYLENE CHLORIDE	<0.001
STYRENE	<0.001
TETRACHLOROETHENE	0.0039
TOLUENE	<0.001
TRANS-1,2-DICHLOROETHENE	<0.001
TRANS-1,3-DICHLOROPROPENE	<0.001
TRICHLOROETHENE	<0.001
TRICHLOROFLUOROMETHANE	<0.001
VINYL ACETATE	<0.001
VINYL CHLORIDE	<0.001
-- SEMI-VOLATILE EXTRACTABLES --	
1,2,3-TRICHLOROPROPANE	<0.001

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance; R:Rejected.

Sample Type: Private Well

SITE CODE	5
SAMPLE DATE	03/31/2008
SAMPLE TIME	11:45
LAB	EL
LAB NUMBER	8040002001
SAMPLE NUMBER	HL-0803-100

-- SEMI-VOLATILE EXTRACTABLES --	
1,2-DIBROMO-3-CHLOROPROPANE	<0.001
1,2-DICHLOROBENZENE	<0.001
TRANS-1,4-DICHLORO-2-BUTENE	<0.001
1,4-DICHLOROBENZENE	<0.001

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

Sample Type: Quality Control

SITE CODE	TRIPBLANK
SAMPLE DATE	03/31/2008
SAMPLE TIME	18:45
LAB	EL
LAB NUMBER	8040002007
REMARKS	BLANK
SAMPLE NUMBER	HL-0803-106

-- VOLATILE ORGANICS --	
1,1,1,2-TETRACHLOROETHANE	<0.001
1,1,1-TRICHLOROETHANE	<0.001
1,1,2,2-TETRACHLOROETHANE	<0.001
1,1,2-TRICHLOROETHANE	<0.001
1,1-DICHLOROETHANE	<0.001
1,1-DICHLOROETHENE	<0.001
1,2-DIBROMOETHANE	<0.001
1,2-DICHLOROETHANE	<0.001
1,2-DICHLOROPROPANE	<0.001
2-HEXANONE	<0.02
ACETONE	<0.02
ACRYLONITRILE	<0.02
BENZENE	<0.001
BROMOCHLOROMETHANE	<0.001
BROMODICHLOROMETHANE	<0.001
BROMOFORM	<0.001
BROMOMETHANE	<0.001
CARBON DISULFIDE	<0.001
CARBON TETRACHLORIDE	<0.001
CHLOROBENZENE	<0.001
CHLORODIBROMOMETHANE	<0.001
CHLOROETHANE	<0.001
CHLOROFORM	<0.001
CHLOROMETHANE	<0.001
CIS-1,2-DICHLOROETHENE	<0.001
CIS-1,3-DICHLOROPROPENE	<0.001
DIBROMOMETHANE	<0.001
DICHLORODIFLUOROMETHANE	<0.001
ETHYLBENZENE	<0.001
IODOMETHANE	<0.001
TOTAL XYLENE	<0.001
M-P XYLENE	<0.001
O-XYLENE	<0.001
METHYL ETHYL KETONE	<0.02
METHYL ISOBUTYL KETONE	<0.02
METHYLENE CHLORIDE	<0.001
STYRENE	<0.001
TETRACHLOROETHENE	<0.001
TOLUENE	<0.001
TRANS-1,2-DICHLOROETHENE	<0.001
TRANS-1,3-DICHLOROPROPENE	<0.001
TRICHLOROETHENE	<0.001
TRICHLOROFLUOROMETHANE	<0.001
VINYL ACETATE	<0.001
VINYL CHLORIDE	<0.001
-- SEMI-VOLATILE EXTRACTABLES --	
1,2,3-TRICHLOROPROPANE	<0.001
1,2-DIBROMO-3-CHLOROPROPANE	<0.001
1,2-DICHLOROBENZENE	<0.001
TRANS-1,4-DICHLORO-2-BUTENE	<0.001
1,4-DICHLOROBENZENE	<0.001

NOTES: All results in mg/L (Water) or mg/kg (Soil) unless noted and are laboratory (LAB) unless field (FLD) or calculated (CALC)
TOT:Total; DIS:Dissolved; TRC:Total Recoverable; E:Estimated; <:Less Than Detect. Blank: parameter not tested
Validation Flags: A:Anomalous; UJ1:Blank; J2,UJ2: Standard; J3:Hold Time; J4,UJ4:Duplicate, Spike, or Split Exceedance;
R:Rejected.

CHHL01 - City of Helena ANALYSES SUMMARY REPORT

INDEX

SAMPLE NUMBER ORDER

Page	Sample Number	Lab ##	Date	Site Code
3	HL-0803-100	8040002001	03/31/2008	
1	HL-0803-101	8040002002	03/31/2008	HL-90-1
1	HL-0803-102	8040002003	03/31/2008	HL-99-2
1	HL-0803-103	8040002004	03/31/2008	HL-99-1
1	HL-0803-104	8040002005	03/24/2008	HL-99-3
1	HL-0803-105	8040002006	03/31/2008	HL-90-1
5	HL-0803-106	8040002007	03/31/2008	TRIPBLANK

LAB NUMBER ORDER

Page	Lab ##	Sample Number	Date	Site Code
3	8040002001	HL-0803-100	03/31/2008	
1	8040002002	HL-0803-101	03/31/2008	HL-90-1
1	8040002003	HL-0803-102	03/31/2008	HL-99-2
1	8040002004	HL-0803-103	03/31/2008	HL-99-1
1	8040002005	HL-0803-104	03/24/2008	HL-99-3
1	8040002006	HL-0803-105	03/31/2008	HL-90-1
5	8040002007	HL-0803-106	03/31/2008	TRIPBLANK

APPENDIX 3

HYDROMETRICS FIELD NOTES

Site	Sample Code #	Date Time	SWL / TD	Bottles / Preservatives
Res#5	HL-0803-	3/31/08	—	2/40/HCL/
Colvin	100	11:45	—	
HL-90-1	HL-0803	3/31/08	53.98'	
	101	17:45	60'	
HL-99-2	HL-0803	3/31/08	55.26'	
	102	18:10	198'	
HL-99-1	HL-0803	3/31/08	54.27'	
	103	18:30	98'	
HL-99-3	HL-0803	3/24/08	51.28'	
	104	10:20	105'	
HL-90-1	HL-0803	3/31/08	SAME	
Dup	105	18:45		

pH	SC	Temp °C
7.14		
7.11	10.81	12.4
7.20	11.40	10.0
7.21	9.40	11.1
7.05	11.25	11.5
7.15	9.52	11.3

SAME AS HL-90-1

Comments

Ran Pump for 15 min and Sampled off of Spigot on Well Head

Removed 12 gal with Disp Bailer and Sampled

Ran Pump for 15 min And Sampled

Hydrometrics, Inc.

STANDARD OPERATING PROCEDURE
WATER SAMPLING FORM
HF-FORM-430

Consulting Scientists, Engineers and Contractors

Project Name: City of Helena
Project Code: 1273
Sample Team Member(s): R, Lane
Laboratory Used: Energy Labs

Site Designation: Res #5 Colvin
Sample Code Number: HL0803-100
Sample Date: 3/31/08
Sample Time: 11:45 (military)

If Duplicate Sample Collected, Please Record Below

Duplicate Sample Code #:
Duplicate Sample Time:

Site Conditions

New Site: Yes (No) Photo taken: Yes (No)
Site Type: DRY surface water process water
monitoring well (domestic well) adit seep
spring other:
Weather Conditions: (calm) breeze windy
(no precip.) rain snow
clear (p. cloudy) overcast
Air Temperature: °C 50 °F

For Groundwater Samples

well volume formula: V = (TD-SWL)x(Dia.^{2}) 25 Comments
TD(ft.) Pumping Rate gpm
SWL (ft): no access/pumping
Casing Diameter (I.D.")
Water Volume (V) (gal): V x 3 =(gal)
MP Description
Actual Vol. Removed (gal.)
Water Level Recovery: slow moderate (rapid)

For Surface Water Samples

Flow Method: Marsh McBirney Volumetric Flume Weir Estimate
Other Flow or Description:
Flow: gpm cfs Staff Gage:

Field Parameter Stabilization

Time (military)	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/l)	pH	S.C. (µmhos/cm)	Turbidity (n.t.u.)	Temperature (°C)	Additional Parameters or Notes
1145			7.11	1087		12.4	

Turbidity: (circle) clear moderate slight very

Sample Method: (describe) grab composite pump bailer other

Field Parameters

	Sample	Duplicate
ORP (mV)		
DO (mg/l)		
pH	7.11	
SC (µmhos/cm)	1087	
Turbidity (ntu)		
H_2O Tmp. (°C)	12.4	
Color	None	
Other; odor	None	

Bottles Collected

Quantity	Size	Filter or Unfilt.	Preservative	Parameter	Additional Notes
2	40mL	UF	HCL	VOC	

Comments:

Sample Team Member Signature: RJZ

Page of

Hydrometrics, Inc.

STANDARD OPERATING PROCEDURE
WATER SAMPLING FORM
HF-FORM-430

Consulting Scientists, Engineers and Contractors

Project Name: City of Helena
Project Code: 1273
Sample Team Member(s): R, Lane
Laboratory Used: Energy Labs

Site Designation: HL-90-1
Sample Code Number: HL-0803-101
Sample Date: 3/31/08
Sample Time: 1745 (military)

If Duplicate Sample Collected, Please Record Below

Duplicate Sample Code #: HL-0803-105
Duplicate Sample Time: 18:45

For Groundwater Samples

well volume formula: V = (TD-SWL)x(Dia.^{2}) 25 Comments

TD(ft.) 60 ~ Pumping Rate ____ gpm
SWL (ft): 53.98 ~ no access/pumping
Casing Diameter (I.D.") 4"
Water Volume (V) (gal): 4 V x 3 =(gal) 12
MP Description Top of PVC
Actual Vol. Removed (gal.) 12
Water Level Recovery: (slow) moderate rapid

Site Conditions

New Site: Yes (No) Photo taken: Yes (No)
Site Type: DRY surface water process water
(monitoring well) domestic well adit seep
spring other:
Weather Conditions: calm (breeze) windy
(no precip) rain snow
clear (p. cloudy) overcast
Air Temperature: °C 43 °F

For Surface Water Samples

Flow Method: Marsh McBirney Volumetric Flume Weir Estimate
Other Flow or Description:
Flow: gpm cfs Staff Gage:

Field Parameter Stabilization

Time (military)	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/l)	pH	S.C. (µmhos/cm)	Turbidity (n.t.u.)	Temperature (°C)	Additional Parameters or Notes
17:45			7.20	1140		10.0	

Turbidity: (circle) (clear) slight moderate very

Sample Method: (describe) (grab) composite pump (bailer) other

Field Parameters

	Sample	Duplicate
ORP (mV)		
DO (mg/l)		
pH	7.20	
SC (µmhos/cm)	1140	
Turbidity (ntu)		
H_2O Tmp. (°C)	10.0	
Color	None	
Other; odor	None	

Bottles Collected

Quantity	Size	Filter or Unfilt.	Preservative	Parameter	Additional Notes
2	40mL	UF	HCL	VOC	

Comments:

Sample Team Member Signature: Rick Z

Page of

Hydrometrics, Inc.

STANDARD OPERATING PROCEDURE
WATER SAMPLING FORM
HF-FORM-430

Consulting Scientists, Engineers and Contractors

Project Name: City of Helena
Project Code: 1273
Sample Team Member(s): R, Lane
Laboratory Used: Energy Labs

Site Designation: HL-94-1
Sample Code Number: HL-0803-103
Sample Date: 3/31/08
Sample Time: 18:30 (military)

If Duplicate Sample Collected, Please Record Below

Duplicate Sample Code #:
Duplicate Sample Time:

For Groundwater Samples

well volume formula: V = (TD-SWL)x(Dia.^{2}) 25 Comments

TD(ft.) 98 Pumping Rate ___ gpm
SWL (ft): 54.27 no access/pumping
Casing Diameter (I.D.")
Water Volume (V) (gal): V x 3 =(gal)
MP Description Top of Casing
Actual Vol. Removed (gal.)
Water Level Recovery: slow moderate (rapid)

Site Conditions

New Site: Yes (No) Photo taken: Yes (No)
Site Type: DRY surface water process water
(monitoring well) domestic well adit seep
spring other:
Weather Conditions: calm (breeze) windy
(no precip.) rain snow
clear (p. cloudy) overcast
Air Temperature: °C 42 °F

For Surface Water Samples

Flow Method: Marsh McBirney Volumetric Flume Weir Estimate
Other Flow or Description:
Flow: gpm cfs Staff Gage:

Field Parameter Stabilization

Time (military)	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/l)	pH	S.C. (µmhos/cm)	Turbidity (n.t.u.)	Temperature (°C)	Additional Parameters or Notes
1830			7.05	1125		11.5	

Turbidity: (circle) (clear) slight moderate very

Sample Method: (describe) (grab) composite (pump) bailer other ded

Field Parameters

	Sample	Duplicate
ORP (mV)		
DO (mg/l)		
pH	7.05	
SC (µmhos/cm)	1125	
Turbidity (ntu)		
H_2O Tmp. (°C)	11.5	
Color	None	
Other; odor	None	

Bottles Collected

Quantity	Size	Filter or Unfilt.	Preservative	Parameter	Additional Notes
2	40mL	UF	HCL	VOC	

Comments:

Sample Team Member Signature:

Page of

Hydrometrics, Inc.

STANDARD OPERATING PROCEDURE
WATER SAMPLING FORM
HF-FORM-430

Consulting Scientists, Engineers and Contractors

Project Name: City of Helena
Project Code: 1273
Sample Team Member(s): R, Lane
Laboratory Used: Energy Labs

Site Designation: HL-44-2
Sample Code Number: HL-0803-102
Sample Date: 3/31/08
Sample Time: 1840 (military)

If Duplicate Sample Collected, Please Record Below

Duplicate Sample Code #:
Duplicate Sample Time:

Site Conditions

New Site: Yes (No) Photo taken: Yes (No)
Site Type: DRY surface water process water
(monitoring well) domestic well adit seep
spring other:
Weather Conditions: calm (breeze) windy
(no precip.) rain snow
clear (p. cloudy) overcast
Air Temperature: °C 42 °F

For Groundwater Samples

well volume formula: V = (TD-SWL)x(Dia.²) 25 Comments
TD(ft.) 118 Pumping Rate gpm
SWL (ft): 55.26 no access/pumping
Casing Diameter (I.D.")
Water Volume (V) (gal): V x 3 =(gal)
MP Description Top of Casing
Actual Vol. Removed (gal.)
Water Level Recovery: slow moderate (rapid)

For Surface Water Samples

Flow Method: Marsh McBirney Volumetric Flume Weir Estimate
Other Flow or Description:
Flow: gpm cfs Staff Gage:

Field Parameter Stabilization

Time (military)	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/l)	pH	S.C. (µmhos/cm)	Turbidity (n.t.u.)	Temperature (°C)	Additional Parameters or Notes
1810			7.21	940		11.2	

Turbidity: (circle) clear moderate slight very

Sample Method: (describe) (grab) composite (pump) bailer other ded

Field Parameters

	Sample	Duplicate
ORP (mV)		
DO (mg/l)		
pH	7.21	
SC (µmhos/cm)	940	
Turbidity (ntu)		
H_2O Tmp. (°C)	11.2	
Color	None	
Other; odor	None	

Bottles Collected

Quantity	Size	Filter or Unfilt.	Preservative	Parameter	Additional Notes
2	40mL	UF	HCL	VOC	

Comments:

Sample Team Member Signature: Rick 2 Page of

Hydrometrics, Inc.

STANDARD OPERATING PROCEDURE
WATER SAMPLING FORM
HF-FORM-430

Consulting Scientists, Engineers and Contractors

Project Name: City of Helena
Project Code: 1273
Sample Team Member(s): R, Lane
Laboratory Used: Energy Labs

Site Designation: HL-94-3
Sample Code Number: HL-0803-104
Sample Date: 3/24/08
Sample Time: 10:20 (military)

If Duplicate Sample Collected, Please Record Below

Duplicate Sample Code #:
Duplicate Sample Time:

For Groundwater Samples

well volume formula: V = (TD-SWL)x(Dia.^{2}) 25 Comments

TD(ft.) 105' Pumping Rate ____ gpm
SWL (ft): 51.28' no access/pumping
Casing Diameter (I.D.")
Water Volume (V) (gal): V x 3 =(gal)
MP Description Top of Casing
Actual Vol. Removed (gal.)
Water Level Recovery: slow moderate rapid

Site Conditions

New Site: Yes (No) Photo taken: Yes (No)
Site Type: DRY surface water process water
(monitoring well) domestic well adit seep
spring other:
Weather Conditions: calm (breeze) windy
(no precip.) rain snow
clear (p. cloudy) overcast
Air Temperature: °C 45 °F

For Surface Water Samples

Flow Method: Marsh McBirney Volumetric Flume Weir Estimate
Other Flow or Description:
Flow: gpm cfs Staff Gage:

Field Parameter Stabilization

Time (military)	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/l)	pH	S.C. (µmhos/cm)	Turbidity (n.t.u.)	Temperature (°C)	Additional Parameters or Notes
10:20			7.15	932		11.3	

Turbidity: (circle) (clear) slight moderate very

Sample Method: (describe) (grab) composite (pump) bailer other ded

Field Parameters

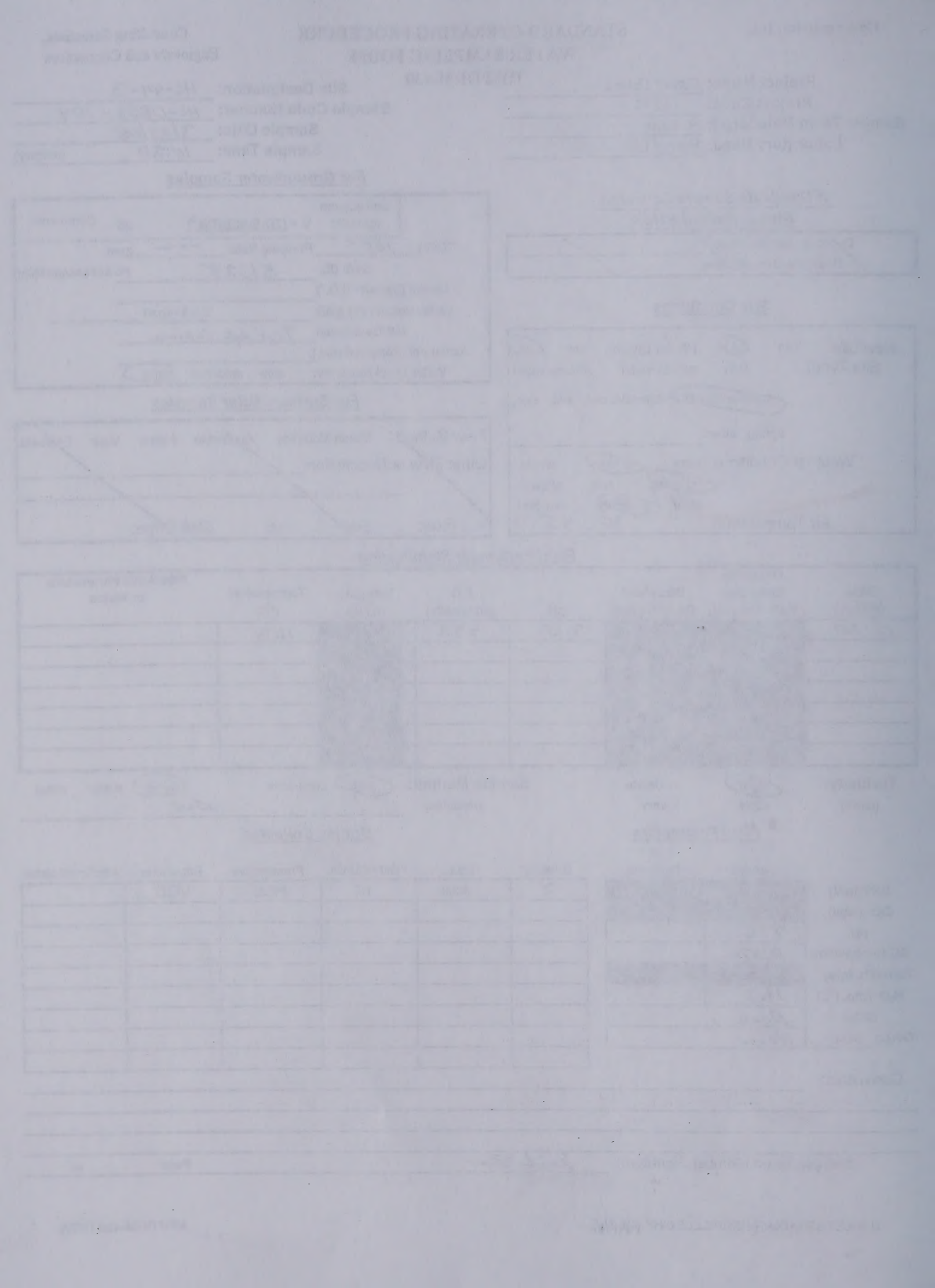
	Sample	Duplicate
ORP (mV)		
DO (mg/l)		
pH	7.15	
SC (µmhos/cm)	932	
Turbidity (ntu)		
H_2O Tmp. (°C)	11.3	
Color	None	
Other; odor	None	

Bottles Collected

Quantity	Size	Filter or Unfilt.	Preservative	Parameter	Additional Notes
2	40mL	UF	HCL	VOC	

Comments:

Sample Team Member Signature: Rich Z Page of



STANDARD OPERATING PROCEDURE
INSTRUMENT CALIBRATION FORM
HF-FORM-500

Project Name: City of Helena

Project Number: 1273

Date: 3/31/08

Personnel: R Lane

Weather Conditions:

calm	breeze	windy
no precip	rain	snow
clear	p. cloudy	overcast

IN LAB
Air Temperature:
°F °C

pH

Meter Type: YSI
SN: 04K17594AF

Time	Buffer	Temperature	Reading (Temp Corrected)
09 : 30	4	21.3	4.00
09 : 26	7	21.2	7.00
09 : 33	10	21.5	9.99
Calibration check:			

Specific Conductance

Meter Type: SN:

Time	Standard	Temperature	Reading (Temp Corrected)	Cell Factor
09:40	1413	22.4	1413	—
Calibration check:				

Dissolved Oxygen

Meter Type:
SN:
Time:
Calibration Results:

Turbidity

Meter Type: SN:
Standard: Reading:

Redox Potential (Eh)

Meter Type:
SN:
Reference: Ag/AgCl
Cal:
Time:
Zobell Solution Potential (mV):
Temperature:

PID/FID

Meter Type: SN:
Span Gas (ppm):

Time	Span Gas Lamp Passed	Span Gas Concentration	Calibration Response Factor	Reading
Calibration Check:				

Notes/Additional Information:

Hydrometrics, Inc.

STANDARD OPERATING PROCEDURE
INSTRUMENT CALIBRATION FORM
HF-FORM-500

Consulting Scientists,
Engineers and Contractors

Project Name: City of Helena

Project Number: 1273

Date: 3/24/08

Personnel: R Lane

Weather Conditions:

calm	breeze	windy
no precip	rain	snow
clear	p. cloudy	overcast

IN LAB
Air Temperature:
°F °C

pH

Meter Type: YSI
SN: 04K17594AF

Time	Buffer	Temperature	Reading (Temp Corrected)
08 :05	4	21.2	4.00
08 :08	7	21.3	7.00
08 :10	10	21.6	9.98
Calibration check:			

Specific Conductance

Meter Type: SN:

Time	Standard	Temperature	Reading (Temp Corrected)	Cell Factor
08:15	1413	22.0	1413	—
Calibration check:				

Dissolved Oxygen

Meter Type
SN
Time
Calibration Results

Turbidity

Meter Type
Standard Reading

Redox Potential (Eh)

Meter Type
SN
Increments Zero Adj
Time Offset
Zobell Solution Temperature (°C)
Temperature

PID/FID

Meter Type SN
Span Gas Type

Time	Span Gas Concentration	Calibration Method	Response Factor	Reading
Calibration Check:				

Notes/Additional Information:

Hydrometrics, Inc.®

2727 Airport Road • Helena, Montana 59601 • (406) 443-4150

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
1273	City of Helena

SAMPLERS: *(Signature)* Rick L

DATE	TIME	COMP	GRAB	SAMPLE NUMBER	NO. OF CONTAINERS	Commons UF/RAW	Nutrients UF/H2SO4	Diss. Metal F/HNO3	CN UF/NaOH	Total Metals UF/HNO3	Total Recoverable Metals UF/HNO3	BTEX	TPH	8260	WET/WC	REMARKS
8/3/05	1145		X	HL-0803-100	2											
	1745		↓	101	↓											
	1810			102												
	1830			103												
8/4/05	10:20			104												
8/4/05	1845		↓	105	↓									↓		

Relinquished *(Signature)*	Date/Time	Received by: *(Signature)*	Lab	P.O. #	Shipped via: Bus, Fed Ex, UPS
Rick L	8/4/05 920		Energy Labs	HLN-0838	Other Air Bill #
Relinquished (Signature)	Date/Time	Received by: *(Signature)*	Remarks		
Relinquished (Signature)	Date/Time	Received for Laboratory by *(Signature)*	Date/Time	Enclosed: ☒ Parameter sheet w/ detection limits ☒ QA/QC standard mixing instructions ☐ Cover letter ☐ Other	
				Split Samples: [] Accepted [] Declined	Signature

HFORM-1-5/99

Return results & electronic copy to:
Computer Dept. at address at top of page

APPENDIX 4

ENERGY LABORATORIES ANALYTICAL REPORT

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

ANALYTICAL SUMMARY REPORT

April 30, 2008

Hydrometrics Inc
3020 Bozeman Ave
Helena, MT 59601

Workorder No.: H08040002

Project Name: 1273 City of Helena

Energy Laboratories Inc received the following 7 samples from Hydrometrics Inc on 4/1/2008 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H08040002-001	HL-0803-100	03/31/08 11:45	04/01/08	Aqueous	8260-Volatile Organic Comp, 40 CFR Part 258 App I
H08040002-002	HL-0803-101	03/31/08 17:45	04/01/08	Aqueous	Same As Above
H08040002-003	HL-0803-102	03/31/08 18:10	04/01/08	Aqueous	Same As Above
H08040002-004	HL-0803-103	03/31/08 18:30	04/01/08	Aqueous	Same As Above
H08040002-005	HL-0803-104	03/24/08 10:20	04/01/08	Aqueous	Same As Above
H08040002-006	HL-0803-105	03/31/08 18:45	04/01/08	Aqueous	Same As Above
H08040002-007	Trip Blank 021308(lc)(b)	03/31/08 18:45	04/01/08	Trip Blank	Same As Above

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT, EPA # MT00005
eli-c - Energy Laboratories, Inc. - Casper, WY, EPA# WY00002
eli-g - Energy Laboratories, Inc. - Gillette, WY, EPA# WY00006
eli-h - Energy Laboratories, Inc. - Helena, MT, EPA# MT00945
eli-r - Energy Laboratories, Inc. - Rapid City, SD, EPA# SD00012
eli-t - Energy Laboratories, Inc. - College Station, TX, EPA# TX01520

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES, INC. will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories are indicated within the Laboratory Analytical Report.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

ELI appreciates the opportunity to provide you with this analytical service. For additional information, including certifications, and analytical services visit our web page www.energylab.com.

Report Approved By: Jennifer Hayes

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

CASE NARRATIVE

NONE

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-001
Client Sample ID: HL-0803-100
Rest #2 Cabin

not for CEDARS

Report Date: 04/05/08
Collection Date: 03/31/08 11:45
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	04/02/08 13:18 / jdh
Acrylonitrile	ND	ug/L		20		SW8260B	04/02/08 13:18 / jdh
Benzene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Bromoform	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Bromomethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Carbon disulfide	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Chloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Chloroform	2.9	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Chloromethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Dibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Dichlorodifluoromethane	0.71	ug/L	J	1.0		SW8260B	04/02/08 13:18 / jdh
1,1-Dichloroethane	0.95	ug/L	J	1.0		SW8260B	04/02/08 13:18 / jdh
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
cis-1,2-Dichloroethene	0.35	ug/L	J	1.0		SW8260B	04/02/08 13:18 / jdh
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
2-Hexanone	ND	ug/L		20		SW8260B	04/02/08 13:18 / jdh
Iodomethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/02/08 13:18 / jdh
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	04/02/08 13:18 / jdh
Methylene chloride	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Styrene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Tetrachloroethene	3.9	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Toluene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh

Report Definitions:
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QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-001
Client Sample ID: HL-0803-100

Report Date: 04/05/08
Collection Date: 03/31/08 11:45
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	0.70	ug/L	J	1.0		SW8260B	04/02/08 13:18 / jdh
Trichlorofluoromethane	0.97	ug/L	J	1.0		SW8260B	04/02/08 13:18 / jdh
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Vinyl acetate	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
o-Xylene	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/02/08 13:18 / jdh
Surr: 1,2-Dichloroethane-d4	93.0	%REC		70-130		SW8260B	04/02/08 13:18 / jdh
Surr: Dibromofluoromethane	95.0	%REC		70-130		SW8260B	04/02/08 13:18 / jdh
Surr: p-Bromofluorobenzene	90.0	%REC		70-130		SW8260B	04/02/08 13:18 / jdh
Surr: Toluene-d8	92.0	%REC		70-130		SW8260B	04/02/08 13:18 / jdh

Report Definitions:
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ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-002
Client Sample ID: HL-0803-101
HL-90-1

Report Date: 04/05/08
Collection Date: 03/31/08 17:45
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	04/02/08 13:47 / jdh
Acrylonitrile	ND	ug/L		20		SW8260B	04/02/08 13:47 / jdh
Benzene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Bromoform	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Bromomethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Carbon disulfide	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Chloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Chloroform	1.5	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Chloromethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Dibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,1-Dichloroethane	1.6	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
cis-1,2-Dichloroethene	0.74	ug/L	J	1.0		SW8260B	04/02/08 13:47 / jdh
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
2-Hexanone	ND	ug/L		20		SW8260B	04/02/08 13:47 / jdh
Iodomethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/02/08 13:47 / jdh
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	04/02/08 13:47 / jdh
Methylene chloride	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Styrene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Tetrachloroethene	5.3	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Toluene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh

Report Definitions:
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MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-002
Client Sample ID: HL-0803-101

Report Date: 04/05/08
Collection Date: 03/31/08 17:45
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	1.1	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Vinyl acetate	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
o-Xylene	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/02/08 13:47 / jdh
Surr: 1,2-Dichloroethane-d4	89.0	%REC		70-130		SW8260B	04/02/08 13:47 / jdh
Surr: Dibromofluoromethane	97.0	%REC		70-130		SW8260B	04/02/08 13:47 / jdh
Surr: p-Bromofluorobenzene	86.0	%REC		70-130		SW8260B	04/02/08 13:47 / jdh
Surr: Toluene-d8	90.0	%REC		70-130		SW8260B	04/02/08 13:47 / jdh

Report Definitions:
RL - Analyte reporting limit.
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ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-003
Client Sample ID: HL-0803-102

Report Date: 04/05/08
Collection Date: 03/31/08 18:10
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	04/02/08 14:17 / jdh
Acrylonitrile	ND	ug/L		20		SW8260B	04/02/08 14:17 / jdh
Benzene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Bromoform	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Bromomethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Carbon disulfide	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Chloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Chloroform	2.5	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Chloromethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Dibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Dichlorodifluoromethane	3.3	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,1-Dichloroethane	3.0	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,1-Dichloroethene	0.20	ug/L	J	1.0		SW8260B	04/02/08 14:17 / jdh
cis-1,2-Dichloroethene	0.72	ug/L	J	1.0		SW8260B	04/02/08 14:17 / jdh
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
2-Hexanone	ND	ug/L		20		SW8260B	04/02/08 14:17 / jdh
Iodomethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/02/08 14:17 / jdh
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	04/02/08 14:17 / jdh
Methylene chloride	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Styrene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Tetrachloroethene	6.8	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Toluene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh

Report Definitions:
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MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-003
Client Sample ID: HL-0803-102

Report Date: 04/05/08
Collection Date: 03/31/08 18:10
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	1.6	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Trichlorofluoromethane	1.0	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Vinyl acetate	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
o-Xylene	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/02/08 14:17 / jdh
Surr: 1,2-Dichloroethane-d4	91.0	%REC		70-130		SW8260B	04/02/08 14:17 / jdh
Surr: Dibromofluoromethane	91.0	%REC		70-130		SW8260B	04/02/08 14:17 / jdh
Surr: p-Bromofluorobenzene	94.0	%REC		70-130		SW8260B	04/02/08 14:17 / jdh
Surr: Toluene-d8	89.0	%REC		70-130		SW8260B	04/02/08 14:17 / jdh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-004
Client Sample ID: HL-0803-103
HL-99-1

Report Date: 04/05/08
Collection Date: 03/31/08 18:30
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	04/02/08 14:46 / jdh
Acrylonitrile	ND	ug/L		20		SW8260B	04/02/08 14:46 / jdh
Benzene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Bromoform	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Bromomethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Carbon disulfide	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Chloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Chloroform	2.8	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Chloromethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Dibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Dichlorodifluoromethane	0.98	ug/L	J	1.0		SW8260B	04/02/08 14:46 / jdh
1,1-Dichloroethane	0.93	ug/L	J	1.0		SW8260B	04/02/08 14:46 / jdh
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
cis-1,2-Dichloroethene	1.7	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
2-Hexanone	ND	ug/L		20		SW8260B	04/02/08 14:46 / jdh
Iodomethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/02/08 14:46 / jdh
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	04/02/08 14:46 / jdh
Methylene chloride	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Styrene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Tetrachloroethene	4.5	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Toluene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
QCL - Quality control limit.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

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Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-004
Client Sample ID: HL-0803-103

Report Date: 04/05/08
Collection Date: 03/31/08 18:30
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	0.87	ug/L	J	1.0		SW8260B	04/02/08 14:46 / jdh
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Vinyl acetate	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
o-Xylene	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/02/08 14:46 / jdh
Surr: 1,2-Dichloroethane-d4	90.0	%REC		70-130		SW8260B	04/02/08 14:46 / jdh
Surr: Dibromofluoromethane	93.0	%REC		70-130		SW8260B	04/02/08 14:46 / jdh
Surr: p-Bromofluorobenzene	87.0	%REC		70-130		SW8260B	04/02/08 14:46 / jdh
Surr: Toluene-d8	94.0	%REC		70-130		SW8260B	04/02/08 14:46 / jdh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-005
Client Sample ID: HL-0803-104
HL-99-3

Report Date: 04/05/08
Collection Date: 03/24/08 10:20
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	04/02/08 15:16 / jdh
Acrylonitrile	ND	ug/L		20		SW8260B	04/02/08 15:16 / jdh
Benzene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Bromoform	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Bromomethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Carbon disulfide	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Chloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Chloroform	2.6	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Chloromethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Dibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Dichlorodifluoromethane	1.7	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,1-Dichloroethane	3.1	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
cis-1,2-Dichloroethene	0.64	ug/L	J	1.0		SW8260B	04/02/08 15:16 / jdh
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
2-Hexanone	ND	ug/L		20		SW8260B	04/02/08 15:16 / jdh
Iodomethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/02/08 15:16 / jdh
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	04/02/08 15:16 / jdh
Methylene chloride	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Styrene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Tetrachloroethene	8.3	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Toluene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-005
Client Sample ID: HL-0803-104

Report Date: 04/05/08
Collection Date: 03/24/08 10:20
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	1.7	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Trichlorofluoromethane	0.69	ug/L	J	1.0		SW8260B	04/02/08 15:16 / jdh
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Vinyl acetate	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
o-Xylene	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/02/08 15:16 / jdh
Surr: 1,2-Dichloroethane-d4	93.0	%REC		70-130		SW8260B	04/02/08 15:16 / jdh
Surr: Dibromofluoromethane	95.0	%REC		70-130		SW8260B	04/02/08 15:16 / jdh
Surr: p-Bromofluorobenzene	82.0	%REC		70-130		SW8260B	04/02/08 15:16 / jdh
Surr: Toluene-d8	90.0	%REC		70-130		SW8260B	04/02/08 15:16 / jdh

Report Definitions:
RL - Analyte reporting limit.
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J - Estimated value. The analyte was present but less than the reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-006 ~~Not In Report~~
Client Sample ID: HL-0803-105 HL-90-1 Duplicate

Report Date: 04/05/08
Collection Date: 03/31/08 18:45
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	04/02/08 15:45 / jdh
Acrylonitrile	ND	ug/L		20		SW8260B	04/02/08 15:45 / jdh
Benzene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Bromoform	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Bromomethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Carbon disulfide	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Chloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Chloroform	1.7	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Chloromethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Dibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Dichlorodifluoromethane	0.24	ug/L	J	1.0		SW8260B	04/02/08 15:45 / jdh
1,1-Dichloroethane	1.9	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
cis-1,2-Dichloroethene	0.98	ug/L	J	1.0		SW8260B	04/02/08 15:45 / jdh
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
2-Hexanone	ND	ug/L		20		SW8260B	04/02/08 15:45 / jdh
Iodomethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/02/08 15:45 / jdh
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	04/02/08 15:45 / jdh
Methylene chloride	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Styrene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Tetrachloroethene	5.8	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Toluene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-006
Client Sample ID: HL-0803-105

Report Date: 04/05/08
Collection Date: 03/31/08 18:45
DateReceived: 04/01/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	1.3	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Vinyl acetate	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
o-Xylene	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/02/08 15:45 / jdh
Surr: 1,2-Dichloroethane-d4	94.0	%REC		70-130		SW8260B	04/02/08 15:45 / jdh
Surr: Dibromofluoromethane	101	%REC		70-130		SW8260B	04/02/08 15:45 / jdh
Surr: p-Bromofluorobenzene	88.0	%REC		70-130		SW8260B	04/02/08 15:45 / jdh
Surr: Toluene-d8	89.0	%REC		70-130		SW8260B	04/02/08 15:45 / jdh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-007
Client Sample ID: Trip Blank 021308(lc)(b)

Report Date: 04/05/08
Collection Date: 03/31/08 18:45
DateReceived: 04/01/08
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	04/02/08 10:20 / jdh
Acrylonitrile	ND	ug/L		20		SW8260B	04/02/08 10:20 / jdh
Benzene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Bromoform	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Bromomethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Carbon disulfide	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Chloroethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Chloroform	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Chloromethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Dibromomethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
2-Hexanone	ND	ug/L		20		SW8260B	04/02/08 10:20 / jdh
Iodomethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/02/08 10:20 / jdh
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	04/02/08 10:20 / jdh
Methylene chloride	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Styrene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Toluene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena
Lab ID: H08040002-007
Client Sample ID: Trip Blank 021308(lc)(b)

Report Date: 04/05/08
Collection Date: 03/31/08 18:45
DateReceived: 04/01/08
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Vinyl acetate	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
o-Xylene	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/02/08 10:20 / jdh
Surr: 1,2-Dichloroethane-d4	89.0	%REC		70-130		SW8260B	04/02/08 10:20 / jdh
Surr: Dibromofluoromethane	88.0	%REC		70-130		SW8260B	04/02/08 10:20 / jdh
Surr: p-Bromofluorobenzene	93.0	%REC		70-130		SW8260B	04/02/08 10:20 / jdh
Surr: Toluene-d8	94.0	%REC		70-130		SW8260B	04/02/08 10:20 / jdh

Report Definitions:
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QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									
							Analytical Run: 1SATURN_080402A		
Sample ID: CCV040208A	Continuing Calibration Verification Standard						04/02/08 07:40		
Acetone	53.2	ug/L	20	106	70	130			
Acrylonitrile	48.0	ug/L	20	96	70	130			
Benzene	5.16	ug/L	1.0	103	70	130			
Bromochloromethane	4.76	ug/L	1.0	95	70	130			
Bromodichloromethane	4.44	ug/L	1.0	89	70	130			
Bromoform	5.20	ug/L	1.0	104	70	130			
Bromomethane	4.04	ug/L	1.0	81	70	130			
Carbon disulfide	6.16	ug/L	1.0	123	70	130			
Carbon tetrachloride	4.96	ug/L	1.0	99	70	130			
Chlorobenzene	4.96	ug/L	1.0	99	70	130			
Chlorodibromomethane	5.00	ug/L	1.0	100	70	130			
Chloroethane	4.56	ug/L	1.0	91	70	130			
Chloroform	4.48	ug/L	1.0	90	80	120			
Chloromethane	5.92	ug/L	1.0	118	70	130			
1,2-Dibromo-3-chloropropane	4.72	ug/L	1.0	94	70	130			
1,2-Dibromoethane	6.40	ug/L	1.0	128	70	130			
Dibromomethane	4.92	ug/L	1.0	98	70	130			
1,2-Dichlorobenzene	5.08	ug/L	1.0	102	70	130			
1,4-Dichlorobenzene	5.12	ug/L	1.0	102	70	130			
trans-1,4-Dichloro-2-butene	5.12	ug/L	1.0	102	70	130			
Dichlorodifluoromethane	5.24	ug/L	1.0	105	70	130			
1,1-Dichloroethane	4.92	ug/L	1.0	98	70	130			
1,2-Dichloroethane	4.64	ug/L	1.0	93	70	130			
1,1-Dichloroethene	5.16	ug/L	1.0	103	80	120			
cis-1,2-Dichloroethene	4.28	ug/L	1.0	86	70	130			
trans-1,2-Dichloroethene	5.04	ug/L	1.0	101	70	130			
1,2-Dichloropropane	5.28	ug/L	1.0	106	80	120			
cis-1,3-Dichloropropene	5.00	ug/L	1.0	100	70	130			
trans-1,3-Dichloropropene	5.60	ug/L	1.0	112	70	130			
Ethylbenzene	4.92	ug/L	1.0	98	80	120			
2-Hexanone	53.2	ug/L	20	106	70	130			
Iodomethane	4.76	ug/L	1.0	95	70	130			
Methyl ethyl ketone	47.6	ug/L	20	95	70	130			
Methyl isobutyl ketone	50.4	ug/L	20	101	70	130			
Methylene chloride	4.40	ug/L	1.0	88	70	130			
Styrene	5.04	ug/L	1.0	101	70	130			
1,1,1,2-Tetrachloroethane	5.12	ug/L	1.0	102	70	130			
1,1,2,2-Tetrachloroethane	5.16	ug/L	1.0	103	70	130			
Tetrachloroethene	5.08	ug/L	1.0	102	70	130			
Toluene	4.96	ug/L	1.0	99	80	120			
1,1,1-Trichloroethane	4.72	ug/L	1.0	94	70	130			
1,1,2-Trichloroethane	5.24	ug/L	1.0	105	70	130			
Trichloroethene	5.20	ug/L	1.0	104	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Analytical Run: 1SATURN_080402A
Sample ID: CCV040208A	Continuing Calibration Verification Standard								04/02/08 07:40
Trichlorofluoromethane	5.20	ug/L	1.0	104	70	130			
1,2,3-Trichloropropane	4.68	ug/L	1.0	94	70	130			
Vinyl acetate	4.32	ug/L	1.0	86	70	130			
Vinyl chloride	4.76	ug/L	1.0	95	80	120			
m+p-Xylenes	9.36	ug/L	1.0	94	70	130			
o-Xylene	4.80	ug/L	1.0	96	70	130			
Xylenes, Total	14.2	ug/L	1.0	94	70	130			
Surr: 1,2-Dichloroethane-d4			1.0	95	70	130			
Surr: Dibromofluoromethane			1.0	93	70	130			
Surr: p-Bromofluorobenzene			1.0	93	70	130			
Surr: Toluene-d8			1.0	101	70	130			
Sample ID: CCV040308A	Continuing Calibration Verification Standard								04/03/08 09:39
Acetone	47.6	ug/L	20	95	70	130			
Acrylonitrile	44.0	ug/L	20	88	70	130			
Benzene	5.32	ug/L	1.0	106	70	130			
Bromochloromethane	5.12	ug/L	1.0	102	70	130			
Bromodichloromethane	4.56	ug/L	1.0	91	70	130			
Bromoform	5.32	ug/L	1.0	106	70	130			
Bromomethane	4.76	ug/L	1.0	95	70	130			
Carbon disulfide	5.52	ug/L	1.0	110	70	130			
Carbon tetrachloride	5.08	ug/L	1.0	102	70	130			
Chlorobenzene	4.52	ug/L	1.0	90	70	130			
Chlorodibromomethane	4.96	ug/L	1.0	99	70	130			
Chloroethane	4.52	ug/L	1.0	90	70	130			
Chloroform	4.88	ug/L	1.0	98	80	120			
Chloromethane	5.64	ug/L	1.0	113	70	130			
1,2-Dibromo-3-chloropropane	4.00	ug/L	1.0	80	70	130			
1,2-Dibromoethane	6.40	ug/L	1.0	128	70	130			
Dibromomethane	4.76	ug/L	1.0	95	70	130			
1,2-Dichlorobenzene	5.04	ug/L	1.0	101	70	130			
1,4-Dichlorobenzene	4.88	ug/L	1.0	98	70	130			
trans-1,4-Dichloro-2-butene	5.16	ug/L	1.0	103	70	130			
Dichlorodifluoromethane	4.64	ug/L	1.0	93	70	130			
1,1-Dichloroethane	4.40	ug/L	1.0	88	70	130			
1,2-Dichloroethane	4.52	ug/L	1.0	90	70	130			
1,1-Dichloroethene	4.80	ug/L	1.0	96	80	120			
cis-1,2-Dichloroethene	4.60	ug/L	1.0	92	70	130			
trans-1,2-Dichloroethene	4.80	ug/L	1.0	96	70	130			
1,2-Dichloropropane	4.76	ug/L	1.0	95	80	120			
cis-1,3-Dichloropropene	4.88	ug/L	1.0	98	70	130			
trans-1,3-Dichloropropene	5.24	ug/L	1.0	105	70	130			
Ethylbenzene	4.80	ug/L	1.0	96	80	120			

Qualifiers:

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Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Analytical Run: 1SATURN_080402A
Sample ID: CCV040308A	Continuing Calibration Verification Standard								04/03/08 09:39
2-Hexanone	46.4	ug/L	20	93	70	130			
Iodomethane	4.20	ug/L	1.0	84	70	130			
Methyl ethyl ketone	41.6	ug/L	20	83	70	130			
Methyl isobutyl ketone	45.6	ug/L	20	91	70	130			
Methylene chloride	4.16	ug/L	1.0	83	70	130			
Styrene	4.56	ug/L	1.0	91	70	130			
1,1,1,2-Tetrachloroethane	4.84	ug/L	1.0	97	70	130			
1,1,2,2-Tetrachloroethane	4.52	ug/L	1.0	90	70	130			
Tetrachloroethene	5.04	ug/L	1.0	101	70	130			
Toluene	4.88	ug/L	1.0	98	80	120			
1,1,1-Trichloroethane	4.76	ug/L	1.0	95	70	130			
1,1,2-Trichloroethane	5.08	ug/L	1.0	102	70	130			
Trichloroethene	5.28	ug/L	1.0	106	70	130			
Trichlorofluoromethane	5.28	ug/L	1.0	106	70	130			
1,2,3-Trichloropropane	4.96	ug/L	1.0	99	70	130			
Vinyl acetate	4.12	ug/L	1.0	82	70	130			
Vinyl chloride	4.72	ug/L	1.0	94	80	120			
m+p-Xylenes	9.08	ug/L	1.0	91	70	130			
o-Xylene	4.72	ug/L	1.0	94	70	130			
Xylenes, Total	13.8	ug/L	1.0	92	70	130			
Surr: 1,2-Dichloroethane-d4			1.0	90	70	130			
Surr: Dibromofluoromethane			1.0	96	70	130			
Surr: p-Bromofluorobenzene			1.0	85	70	130			
Surr: Toluene-d8			1.0	90	70	130			
Method: SW8260B									Batch: R44148
Sample ID: LCS040208A	Laboratory Control Sample				Run: 1SATURN_080402A				04/02/08 08:25
Acetone	53.2	ug/L	20	106	70	130			
Acrylonitrile	49.6	ug/L	20	99	70	130			
Benzene	5.28	ug/L	1.0	106	70	130			
Bromochloromethane	5.08	ug/L	1.0	102	70	130			
Bromodichloromethane	4.24	ug/L	1.0	85	70	130			
Bromoform	4.80	ug/L	1.0	96	70	130			
Bromomethane	4.68	ug/L	1.0	94	70	130			
Carbon disulfide	5.84	ug/L	1.0	117	70	130			
Carbon tetrachloride	4.80	ug/L	1.0	96	70	130			
Chlorobenzene	4.76	ug/L	1.0	95	70	130			
Chlorodibromomethane	5.12	ug/L	1.0	102	70	130			
Chloroethane	4.88	ug/L	1.0	98	70	130			
Chloroform	4.72	ug/L	1.0	94	70	130			
Chloromethane	5.80	ug/L	1.0	116	70	130			
1,2-Dibromo-3-chloropropane	4.68	ug/L	1.0	94	70	130			
1,2-Dibromoethane	6.32	ug/L	1.0	126	70	130			

Qualifiers:

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ND - Not detected at the reporting limit.

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Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: LCS040208A	Laboratory Control Sample				Run: 1SATURN_080402A				04/02/08 08:25
Dibromomethane	4.32	ug/L	1.0	86	70	130			
1,2-Dichlorobenzene	5.00	ug/L	1.0	100	70	130			
1,4-Dichlorobenzene	5.00	ug/L	1.0	100	70	130			
trans-1,4-Dichloro-2-butene	5.40	ug/L	1.0	108	70	130			
Dichlorodifluoromethane	4.76	ug/L	1.0	95	70	130			
1,1-Dichloroethane	4.80	ug/L	1.0	96	70	130			
1,2-Dichloroethane	4.56	ug/L	1.0	91	70	130			
1,1-Dichloroethene	4.80	ug/L	1.0	96	70	130			
cis-1,2-Dichloroethene	4.52	ug/L	1.0	90	70	130			
trans-1,2-Dichloroethene	5.12	ug/L	1.0	102	70	130			
1,2-Dichloropropane	4.88	ug/L	1.0	98	70	130			
cis-1,3-Dichloropropene	4.64	ug/L	1.0	93	70	130			
trans-1,3-Dichloropropene	4.96	ug/L	1.0	99	70	130			
Ethylbenzene	4.84	ug/L	1.0	97	70	130			
2-Hexanone	52.0	ug/L	20	104	70	130			
Iodomethane	4.48	ug/L	1.0	90	70	130			
Methyl ethyl ketone	50.4	ug/L	20	101	70	130			
Methyl isobutyl ketone	48.4	ug/L	20	97	70	130			
Methylene chloride	4.44	ug/L	1.0	89	70	130			
Styrene	4.48	ug/L	1.0	90	70	130			
1,1,1,2-Tetrachloroethane	5.16	ug/L	1.0	103	70	130			
1,1,2,2-Tetrachloroethane	5.00	ug/L	1.0	100	70	130			
Tetrachloroethene	4.96	ug/L	1.0	99	70	130			
Toluene	4.56	ug/L	1.0	91	70	130			
1,1,1-Trichloroethane	4.72	ug/L	1.0	94	70	130			
1,1,2-Trichloroethane	5.16	ug/L	1.0	103	70	130			
Trichloroethene	5.28	ug/L	1.0	106	70	130			
Trichlorofluoromethane	5.16	ug/L	1.0	103	70	130			
1,2,3-Trichloropropane	6.32	ug/L	1.0	126	70	130			
Vinyl acetate	4.44	ug/L	1.0	89	70	130			
Vinyl chloride	4.72	ug/L	1.0	94	70	130			
m+p-Xylenes	9.08	ug/L	1.0	91	70	130			
o-Xylene	4.48	ug/L	1.0	90	70	130			
Xylenes, Total	13.6	ug/L	1.0	90	70	130			
Surr: 1,2-Dichloroethane-d4			1.0	93	70	130			
Surr: Dibromofluoromethane			1.0	92	70	130			
Surr: p-Bromofluorobenzene			1.0	88	70	130			
Surr: Toluene-d8			1.0	91	70	130			
Sample ID: MBLK040208A	Method Blank				Run: 1SATURN_080402A				04/02/08 09:50
Acetone	ND	ug/L	20						
Acrylonitrile	ND	ug/L	20						
Benzene	ND	ug/L	1.0						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: MBLK040208A	Method Blank				Run: 1SATURN_080402A				04/02/08 09:50
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon disulfide	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0						
1,2-Dibromoethane	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
1,2-Dichlorobenzene	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
cis-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Ethylbenzene	ND	ug/L	1.0						
2-Hexanone	ND	ug/L	20						
Iodomethane	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methyl isobutyl ketone	ND	ug/L	20						
Methylene chloride	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
Tetrachloroethene	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						
Vinyl acetate	ND	ug/L	1.0						

Qualifiers:

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QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: MBLK040208A	Method Blank				Run: 1SATURN_080402A				04/02/08 09:50
Vinyl chloride	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4			1.0	90	70	130			
Surr: Dibromofluoromethane			1.0	89	70	130			
Surr: p-Bromofluorobenzene			1.0	92	70	130			
Surr: Toluene-d8			1.0	94	70	130			
Sample ID: H08040002-002AMS	Sample Matrix Spike				Run: 1SATURN_080402A				04/02/08 17:14
Acrylonitrile	88.8	ug/L	40	89	70	130			
Benzene	9.76	ug/L	2.0	98	70	130			
Bromochloromethane	10.1	ug/L	2.0	101	70	130			
Bromodichloromethane	7.98	ug/L	2.0	80	70	130			
Bromoform	9.52	ug/L	2.0	95	70	130			
Bromomethane	9.84	ug/L	2.0	98	70	130			
Carbon disulfide	10.5	ug/L	2.0	105	70	130			
Carbon tetrachloride	9.12	ug/L	2.0	91	70	130			
Chlorobenzene	8.24	ug/L	2.0	82	70	130			
Chlorodibromomethane	9.92	ug/L	2.0	99	70	130			
Chloroethane	8.88	ug/L	2.0	89	70	130			
Chloroform	9.92	ug/L	2.0	84	70	130			
Chloromethane	11.9	ug/L	2.0	119	70	130			
1,2-Dibromo-3-chloropropane	9.84	ug/L	2.0	98	70	130			
1,2-Dibromoethane	11.1	ug/L	2.0	111	70	130			
Dibromomethane	7.62	ug/L	2.0	76	70	130			
1,2-Dichlorobenzene	8.88	ug/L	2.0	89	70	130			
1,4-Dichlorobenzene	9.04	ug/L	2.0	90	70	130			
trans-1,4-Dichloro-2-butene	9.36	ug/L	2.0	94	70	130			
Dichlorodifluoromethane	9.60	ug/L	2.0	96	70	130			
1,1-Dichloroethane	10.4	ug/L	2.0	88	70	130			
1,2-Dichloroethane	8.64	ug/L	2.0	86	70	130			
1,1-Dichloroethene	8.64	ug/L	2.0	86	70	130			
cis-1,2-Dichloroethene	9.04	ug/L	2.0	83	70	130			
trans-1,2-Dichloroethene	9.12	ug/L	2.0	91	70	130			
1,2-Dichloropropane	8.96	ug/L	2.0	90	70	130			
cis-1,3-Dichloropropene	8.64	ug/L	2.0	86	70	130			
trans-1,3-Dichloropropene	9.12	ug/L	2.0	91	70	130			
Ethylbenzene	8.32	ug/L	2.0	83	70	130			
Iodomethane	8.16	ug/L	2.0	82	70	130			
Methylene chloride	8.48	ug/L	2.0	85	70	130			
Styrene	7.91	ug/L	2.0	79	70	130			
1,1,1,2-Tetrachloroethane	8.88	ug/L	2.0	89	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: H08040002-002AMS	Sample Matrix Spike				Run: 1SATURN_080402A				04/02/08 17:14
1,1,2,2-Tetrachloroethane	9.12	ug/L	2.0	91	70	130			
Tetrachloroethene	13.3	ug/L	2.0	80	70	130			
Toluene	8.32	ug/L	2.0	83	70	130			
1,1,1-Trichloroethane	9.44	ug/L	2.0	94	70	130			
1,1,2-Trichloroethane	8.96	ug/L	2.0	90	70	130			
Trichloroethene	10.1	ug/L	2.0	89	70	130			
Trichlorofluoromethane	10.9	ug/L	2.0	109	70	130			
1,2,3-Trichloropropane	12.7	ug/L	2.0	127	70	130			
Vinyl acetate	8.40	ug/L	2.0	84	70	130			
Vinyl chloride	9.28	ug/L	2.0	93	70	130			
m+p-Xylenes	15.6	ug/L	2.0	78	70	130			
o-Xylene	8.16	ug/L	2.0	82	70	130			
Xylenes, Total	23.8	ug/L	2.0	79	70	130			
Surr: 1,2-Dichloroethane-d4			2.0	90	70	130			
Surr: Dibromofluoromethane			2.0	94	70	130			
Surr: p-Bromofluorobenzene			2.0	88	70	130			
Surr: Toluene-d8			2.0	88	70	130			
Sample ID: H08040002-002AMSD	Sample Matrix Spike Duplicate				Run: 1SATURN_080402A				04/02/08 17:43
Acrylonitrile	97.6	ug/L	40	98	70	130	9.4	20	
Benzene	10.7	ug/L	2.0	107	70	130	9.4	20	
Bromochloromethane	10.9	ug/L	2.0	109	70	130	7.6	20	
Bromodichloromethane	9.60	ug/L	2.0	96	70	130	18	20	
Bromoform	10.4	ug/L	2.0	104	70	130	8.8	20	
Bromomethane	10.2	ug/L	2.0	102	70	130	4.0	20	
Carbon disulfide	11.3	ug/L	2.0	113	70	130	7.4	20	
Carbon tetrachloride	10.2	ug/L	2.0	102	70	130	11	20	
Chlorobenzene	9.52	ug/L	2.0	95	70	130	14	20	
Chlorodibromomethane	10.5	ug/L	2.0	105	70	130	5.5	20	
Chloroethane	8.40	ug/L	2.0	84	70	130	5.6	20	
Chloroform	10.8	ug/L	2.0	93	70	130	8.5	20	
Chloromethane	12.0	ug/L	2.0	120	70	130	0.7	20	
1,2-Dibromo-3-chloropropane	9.04	ug/L	2.0	90	70	130	8.5	20	
1,2-Dibromoethane	13.0	ug/L	2.0	130	70	130	15	20	
Dibromomethane	9.04	ug/L	2.0	90	70	130	17	20	
1,2-Dichlorobenzene	10.3	ug/L	2.0	103	70	130	15	20	
1,4-Dichlorobenzene	10.1	ug/L	2.0	101	70	130	11	20	
trans-1,4-Dichloro-2-butene	11.8	ug/L	2.0	118	70	130	23	20	R
Dichlorodifluoromethane	9.20	ug/L	2.0	92	70	130	4.3	20	
1,1-Dichloroethane	11.1	ug/L	2.0	96	70	130	6.7	20	
1,2-Dichloroethane	9.28	ug/L	2.0	93	70	130	7.1	20	
1,1-Dichloroethene	9.44	ug/L	2.0	94	70	130	8.8	20	
cis-1,2-Dichloroethene	9.28	ug/L	2.0	85	70	130	2.6	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
R - RPD exceeds advisory limit.

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: H08040002-002AMSD	Sample Matrix Spike Duplicate				Run: 1SATURN_080402A				04/02/08 17:43
trans-1,2-Dichloroethene	10.1	ug/L	2.0	101	70	130	10	20	
1,2-Dichloropropane	10.6	ug/L	2.0	106	70	130	16	20	
cis-1,3-Dichloropropene	10.4	ug/L	2.0	104	70	130	18	20	
trans-1,3-Dichloropropene	10.6	ug/L	2.0	106	70	130	15	20	
Ethylbenzene	9.36	ug/L	2.0	94	70	130	12	20	
Iodomethane	8.96	ug/L	2.0	90	70	130	9.3	20	
Methylene chloride	8.64	ug/L	2.0	86	70	130	1.9	20	
Styrene	8.96	ug/L	2.0	90	70	130	12	20	
1,1,1,2-Tetrachloroethane	10.3	ug/L	2.0	103	70	130	15	20	
1,1,2,2-Tetrachloroethane	10.7	ug/L	2.0	107	70	130	16	20	
Tetrachloroethene	14.9	ug/L	2.0	96	70	130	11	20	
Toluene	9.76	ug/L	2.0	98	70	130	16	20	
1,1,1-Trichloroethane	10.4	ug/L	2.0	104	70	130	9.7	20	
1,1,2-Trichloroethane	10.2	ug/L	2.0	102	70	130	13	20	
Trichloroethene	11.1	ug/L	2.0	100	70	130	9.8	20	
Trichlorofluoromethane	11.3	ug/L	2.0	113	70	130	3.6	20	
1,2,3-Trichloropropane	15.0	ug/L	2.0	150	70	130	16	20	S
Vinyl acetate	9.12	ug/L	2.0	91	70	130	8.2	20	
Vinyl chloride	9.28	ug/L	2.0	93	70	130	0.0	20	
m+p-Xylenes	17.8	ug/L	2.0	89	70	130	13	20	
o-Xylene	9.20	ug/L	2.0	92	70	130	12	20	
Xylenes, Total	27.0	ug/L	2.0	90	70	130	13	20	
Surr: 1,2-Dichloroethane-d4			2.0	92	70	130	0.0	20	
Surr: Dibromofluoromethane			2.0	95	70	130	0.0	20	
Surr: p-Bromofluorobenzene			2.0	88	70	130	0.0	20	
Surr: Toluene-d8			2.0	91	70	130	0.0	20	
Sample ID: LCS040308A	Laboratory Control Sample				Run: 1SATURN_080402A				04/03/08 10:23
Acetone	44.4	ug/L	20	89	70	130			
Acrylonitrile	46.4	ug/L	20	93	70	130			
Benzene	5.08	ug/L	1.0	102	70	130			
Bromochloromethane	5.00	ug/L	1.0	100	70	130			
Bromodichloromethane	4.24	ug/L	1.0	85	70	130			
Bromoform	5.52	ug/L	1.0	110	70	130			
Bromomethane	4.88	ug/L	1.0	98	70	130			
Carbon disulfide	5.76	ug/L	1.0	115	70	130			
Carbon tetrachloride	4.76	ug/L	1.0	95	70	130			
Chlorobenzene	4.56	ug/L	1.0	91	70	130			
Chlorodibromomethane	4.84	ug/L	1.0	97	70	130			
Chloroethane	4.68	ug/L	1.0	94	70	130			
Chloroform	4.72	ug/L	1.0	94	70	130			
Chloromethane	6.00	ug/L	1.0	120	70	130			
1,2-Dibromo-3-chloropropane	4.24	ug/L	1.0	85	70	130			

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: LCS040308A	Laboratory Control Sample				Run: 1SATURN_080402A				04/03/08 10:23
1,2-Dibromoethane	6.20	ug/L	1.0	124	70	130			
Dibromomethane	4.80	ug/L	1.0	96	70	130			
1,2-Dichlorobenzene	4.68	ug/L	1.0	94	70	130			
1,4-Dichlorobenzene	4.72	ug/L	1.0	94	70	130			
trans-1,4-Dichloro-2-butene	5.28	ug/L	1.0	106	70	130			
Dichlorodifluoromethane	4.64	ug/L	1.0	93	70	130			
1,1-Dichloroethane	4.64	ug/L	1.0	93	70	130			
1,2-Dichloroethane	4.28	ug/L	1.0	86	70	130			
1,1-Dichloroethene	4.60	ug/L	1.0	92	70	130			
cis-1,2-Dichloroethene	4.36	ug/L	1.0	87	70	130			
trans-1,2-Dichloroethene	5.12	ug/L	1.0	102	70	130			
1,2-Dichloropropane	4.92	ug/L	1.0	98	70	130			
cis-1,3-Dichloropropene	4.80	ug/L	1.0	96	70	130			
trans-1,3-Dichloropropene	5.08	ug/L	1.0	102	70	130			
Ethylbenzene	4.68	ug/L	1.0	94	70	130			
2-Hexanone	46.8	ug/L	20	94	70	130			
Iodomethane	4.56	ug/L	1.0	91	70	130			
Methyl ethyl ketone	44.0	ug/L	20	88	70	130			
Methyl isobutyl ketone	43.2	ug/L	20	86	70	130			
Methylene chloride	4.04	ug/L	1.0	81	70	130			
Styrene	4.48	ug/L	1.0	90	70	130			
1,1,1,2-Tetrachloroethane	4.88	ug/L	1.0	98	70	130			
1,1,2,2-Tetrachloroethane	4.88	ug/L	1.0	98	70	130			
Tetrachloroethene	5.00	ug/L	1.0	100	70	130			
Toluene	4.72	ug/L	1.0	94	70	130			
1,1,1-Trichloroethane	4.88	ug/L	1.0	98	70	130			
1,1,2-Trichloroethane	5.16	ug/L	1.0	103	70	130			
Trichloroethene	4.96	ug/L	1.0	99	70	130			
Trichlorofluoromethane	5.56	ug/L	1.0	111	70	130			
1,2,3-Trichloropropane	6.04	ug/L	1.0	121	70	130			
Vinyl acetate	4.40	ug/L	1.0	88	70	130			
Vinyl chloride	4.96	ug/L	1.0	99	70	130			
m+p-Xylenes	8.48	ug/L	1.0	85	70	130			
o-Xylene	4.52	ug/L	1.0	90	70	130			
Xylenes, Total	13.0	ug/L	1.0	87	70	130			
Surr: 1,2-Dichloroethane-d4			1.0	90	70	130			
Surr: Dibromofluoromethane			1.0	93	70	130			
Surr: p-Bromofluorobenzene			1.0	88	70	130			
Surr: Toluene-d8			1.0	95	70	130			
Sample ID: MBLK040208A	Method Blank				Run: 1SATURN_080402A				04/03/08 11:40
Acetone	ND	ug/L	20						
Acrylonitrile	ND	ug/L	20						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: MBLK040208A	Method Blank				Run: 1SATURN_080402A				04/03/08 11:40
Benzene	ND	ug/L	1.0						
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon disulfide	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0						
1,2-Dibromoethane	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
1,2-Dichlorobenzene	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
cis-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Ethylbenzene	ND	ug/L	1.0						
2-Hexanone	ND	ug/L	20						
Iodomethane	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methyl isobutyl ketone	ND	ug/L	20						
Methylene chloride	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
Tetrachloroethene	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: MBLK040208A	Method Blank				Run: 1SATURN_080402A				04/03/08 11:40
Vinyl acetate	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4			1.0	90	70	130			
Surr: Dibromofluoromethane			1.0	93	70	130			
Surr: p-Bromofluorobenzene			1.0	86	70	130			
Surr: Toluene-d8			1.0	89	70	130			
Sample ID: H08040002-001AMS	Sample Matrix Spike				Run: 1SATURN_080402A				04/03/08 12:09
Acetone	101	ug/L	40	101	70	130			
Acrylonitrile	81.6	ug/L	40	82	70	130			
Benzene	9.84	ug/L	2.0	98	70	130			
Bromochloromethane	9.92	ug/L	2.0	99	70	130			
Bromodichloromethane	8.72	ug/L	2.0	87	70	130			
Bromoform	11.8	ug/L	2.0	118	70	130			
Bromomethane	9.28	ug/L	2.0	93	70	130			
Carbon disulfide	11.4	ug/L	2.0	114	70	130			
Carbon tetrachloride	9.28	ug/L	2.0	93	70	130			
Chlorobenzene	8.96	ug/L	2.0	90	70	130			
Chlorodibromomethane	9.84	ug/L	2.0	98	70	130			
Chloroethane	9.12	ug/L	2.0	91	70	130			
Chloroform	11.4	ug/L	2.0	85	70	130			
Chloromethane	10.8	ug/L	2.0	108	70	130			
1,2-Dibromo-3-chloropropane	8.80	ug/L	2.0	88	70	130			
1,2-Dibromoethane	11.8	ug/L	2.0	118	70	130			
Dibromomethane	9.60	ug/L	2.0	96	70	130			
1,2-Dichlorobenzene	8.96	ug/L	2.0	90	70	130			
1,4-Dichlorobenzene	9.12	ug/L	2.0	91	70	130			
trans-1,4-Dichloro-2-butene	10.1	ug/L	2.0	101	70	130			
Dichlorodifluoromethane	8.96	ug/L	2.0	82	70	130			
1,1-Dichloroethane	9.68	ug/L	2.0	87	70	130			
1,2-Dichloroethane	8.56	ug/L	2.0	86	70	130			
1,1-Dichloroethene	8.88	ug/L	2.0	89	70	130			
cis-1,2-Dichloroethene	8.64	ug/L	2.0	83	70	130			
trans-1,2-Dichloroethene	8.96	ug/L	2.0	90	70	130			
1,2-Dichloropropane	9.52	ug/L	2.0	95	70	130			
cis-1,3-Dichloropropene	9.28	ug/L	2.0	93	70	130			
trans-1,3-Dichloropropene	10.2	ug/L	2.0	102	70	130			
Ethylbenzene	8.96	ug/L	2.0	90	70	130			
2-Hexanone	96.0	ug/L	40	96	70	130			
Iodomethane	8.80	ug/L	2.0	88	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: H08040002-001AMS	Sample Matrix Spike				Run: 1SATURN_080402A				04/03/08 12:09
Methyl ethyl ketone	92.0	ug/L	40	92	70	130			
Methyl isobutyl ketone	94.4	ug/L	40	94	70	130			
Methylene chloride	8.24	ug/L	2.0	82	70	130			
Styrene	8.72	ug/L	2.0	87	70	130			
1,1,1,2-Tetrachloroethane	9.20	ug/L	2.0	92	70	130			
1,1,2,2-Tetrachloroethane	9.76	ug/L	2.0	98	70	130			
Tetrachloroethene	12.7	ug/L	2.0	88	70	130			
Toluene	9.04	ug/L	2.0	90	70	130			
1,1,1-Trichloroethane	9.68	ug/L	2.0	97	70	130			
1,1,2-Trichloroethane	10.1	ug/L	2.0	101	70	130			
Trichloroethene	10.6	ug/L	2.0	99	70	130			
Trichlorofluoromethane	10.2	ug/L	2.0	93	70	130			
1,2,3-Trichloropropane	10.2	ug/L	2.0	102	70	130			
Vinyl acetate	8.48	ug/L	2.0	85	70	130			
Vinyl chloride	8.96	ug/L	2.0	90	70	130			
m+p-Xylenes	16.8	ug/L	2.0	84	70	130			
o-Xylene	8.88	ug/L	2.0	89	70	130			
Xylenes, Total	25.7	ug/L	2.0	86	70	130			
Surr: 1,2-Dichloroethane-d4			2.0	93	70	130			
Surr: Dibromofluoromethane			2.0	92	70	130			
Surr: p-Bromofluorobenzene			2.0	88	70	130			
Surr: Toluene-d8			2.0	92	70	130			
Sample ID: H08040002-001AMSD	Sample Matrix Spike Duplicate				Run: 1SATURN_080402A				04/03/08 12:38
Acetone	109	ug/L	40	109	70	130	7.6	20	
Acrylonitrile	98.4	ug/L	40	98	70	130	19	20	
Benzene	11.8	ug/L	2.0	118	70	130	18	20	
Bromochloromethane	10.6	ug/L	2.0	106	70	130	7.0	20	
Bromodichloromethane	9.84	ug/L	2.0	98	70	130	12	20	
Bromoform	12.5	ug/L	2.0	125	70	130	5.3	20	
Bromomethane	9.44	ug/L	2.0	94	70	130	1.7	20	
Carbon disulfide	12.6	ug/L	2.0	126	70	130	10.0	20	
Carbon tetrachloride	11.0	ug/L	2.0	110	70	130	17	20	
Chlorobenzene	10.2	ug/L	2.0	102	70	130	13	20	
Chlorodibromomethane	11.5	ug/L	2.0	115	70	130	16	20	
Chloroethane	9.76	ug/L	2.0	98	70	130	6.8	20	
Chloroform	12.4	ug/L	2.0	95	70	130	8.8	20	
Chloromethane	11.4	ug/L	2.0	114	70	130	5.1	20	
1,2-Dibromo-3-chloropropane	11.5	ug/L	2.0	115	70	130	27	20	R
1,2-Dibromoethane	14.2	ug/L	2.0	142	70	130	19	20	S
Dibromomethane	10.2	ug/L	2.0	102	70	130	6.5	20	
1,2-Dichlorobenzene	11.6	ug/L	2.0	116	70	130	26	20	R
1,4-Dichlorobenzene	11.2	ug/L	2.0	112	70	130	20	20	R

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

ENERGY LABORATORIES, INC. * 3161 E. Lyndale * P.O Box 5688 * Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena

Report Date: 04/05/08
Work Order: H08040002

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R44148
Sample ID: H08040002-001AMSD	Sample Matrix Spike Duplicate				Run: 1SATURN_080402A				04/03/08 12:38
trans-1,4-Dichloro-2-butene	12.3	ug/L	2.0	123	70	130	20	20	R
Dichlorodifluoromethane	9.44	ug/L	2.0	87	70	130	5.2	20	
1,1-Dichloroethane	11.8	ug/L	2.0	108	70	130	19	20	
1,2-Dichloroethane	10.6	ug/L	2.0	106	70	130	22	20	R
1,1-Dichloroethene	10.9	ug/L	2.0	109	70	130	20	20	R
cis-1,2-Dichloroethene	9.84	ug/L	2.0	95	70	130	13	20	
trans-1,2-Dichloroethene	11.0	ug/L	2.0	110	70	130	21	20	R
1,2-Dichloropropane	10.9	ug/L	2.0	109	70	130	13	20	
cis-1,3-Dichloropropene	11.2	ug/L	2.0	112	70	130	19	20	
trans-1,3-Dichloropropene	12.2	ug/L	2.0	122	70	130	17	20	
Ethylbenzene	10.3	ug/L	2.0	103	70	130	14	20	
2-Hexanone	110	ug/L	40	110	70	130	13	20	
Iodomethane	9.60	ug/L	2.0	96	70	130	8.7	20	
Methyl ethyl ketone	106	ug/L	40	106	70	130	15	20	
Methyl isobutyl ketone	106	ug/L	40	106	70	130	12	20	
Methylene chloride	9.84	ug/L	2.0	98	70	130	18	20	
Styrene	10.6	ug/L	2.0	106	70	130	19	20	
1,1,1,2-Tetrachloroethane	11.1	ug/L	2.0	111	70	130	19	20	
1,1,2,2-Tetrachloroethane	11.4	ug/L	2.0	114	70	130	15	20	
Tetrachloroethene	14.1	ug/L	2.0	102	70	130	10	20	
Toluene	11.1	ug/L	2.0	111	70	130	21	20	R
1,1,1-Trichloroethane	11.2	ug/L	2.0	112	70	130	15	20	
1,1,2-Trichloroethane	11.7	ug/L	2.0	117	70	130	15	20	
Trichloroethene	11.3	ug/L	2.0	106	70	130	5.8	20	
Trichlorofluoromethane	10.9	ug/L	2.0	99	70	130	6.1	20	
1,2,3-Trichloropropane	13.8	ug/L	2.0	138	70	130	30	20	SR
Vinyl acetate	11.0	ug/L	2.0	110	70	130	26	20	R
Vinyl chloride	8.96	ug/L	2.0	90	70	130	0.0	20	
m+p-Xylenes	20.0	ug/L	2.0	100	70	130	17	20	
o-Xylene	10.4	ug/L	2.0	104	70	130	16	20	
Xylenes, Total	30.4	ug/L	2.0	101	70	130	17	20	
Surr: 1,2-Dichloroethane-d4			2.0	92	70	130	0.0	20	
Surr: Dibromofluoromethane			2.0	97	70	130	0.0	20	
Surr: p-Bromofluorobenzene			2.0	93	70	130	0.0	20	
Surr: Toluene-d8			2.0	94	70	130	0.0	20	

Qualifiers:

RL - Analyte reporting limit.
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Hydrometrics, Inc.®

2727 Airport Road • Helena, Montana 59601 • (406) 443-4150

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
1273	City of Helena

SAMPLERS: *(Signature)* Rick Z

DATE	TIME	COMP.	GRAB	SAMPLE NUMBER	NO. OF CONTAINERS	Commons UF/RAW	Nutrients UF/H_2SO_4	Diss. Metal F/HNO_3	CN UF/NaOH	Total Metals UF/HNO_3	Total Recoverable Metals UF/HNO_3	BTEX	TPH	8260 UF/HCl						REMARKS
3/3/08	1145		X	HL-0803-100	2															HE80400003.001
	1745			101																002
	1810			102																003
	1830			103																004
3/3/08	10:20			104																005
3/3/08	1845		↓	105	↓															006

Relinquished *(Signature)*	Date/Time	Received by: *(Signature)*	Lab	P.O. #	Shipped via: Bus, Fed Ex, UPS
Rick Z	3/4/08 9:20	RJ Lee	Energy Labs	1-LN-09578	Other Air Bill #
Relinquished (Signature)	Date/Time	Received by: *(Signature)*	Remarks		
			temp 4.0	Standard detection limits per R. Jane	
Relinquished (Signature)	Date/Time	Received for Laboratory by: *(Signature)*	Date/Time	Enclosed: ☒ Parameter sheet w/detection limits ☐ QA/QC standard mixing instructions ☐ Cover letter ☐ Other	

HFORM-1-5/99

Return results & electronic copy to:
Computer Dept. at address at top of page

Split Samples:
[] Accepted [] Declined _____ Signature

Table 2. Volatile Organic Compounds (EPA Method 8260)

1) Acetone
2) Acrylonitrile
3) Benzene
4) Bromochloromethane
5) Bromoform
6) Carbon Disulfide
7) Carbon Tetrachloride
8) Chlorobenzene
9) Chloroethane
10) Chloroform
11) Chlorodibromomethane
12) 1,2-Dibromo-3-chloropropane
13) 1,2-Dibromoethane
14) 1,2-Dichlorobenzene
15) 1,4-Dichlorobenzene
16) trans-1,4-Dichloro-2-butene
17) Dichlorodifluoromethane
18) 1,1-Dichloroethane
19) 1,2-Dichloroethane
20) 1,1-Dichloroethylene
21) cis-1,2-Dichloroethylene
22) trans-1,2-Dichloroethylene
23) 1,2-Dichloropropane
24) cis-1,3-Dichloropropene
25) trans-1,3-Dichloropropene
26) Ethylbenzene
27) 2-Hexanone
28) Methyl bromide
29) Methyl chloride
30) Methylene bromide
31) Methylene chloride
32) Methyl ethyl ketone
33) Methyl iodide
34) 4-Methyl-2-pentanone
35) Styrene
36) 1,1,1,2-Tetrachloroethane
37) 1,1,2,2-Tetrachloroethane
38) Tetrachloroethylene
39) Toluene
40) 1,1,1-Trichloroethane
41) 1,1,2-Trichloroethane
42) Trichloroethene
43) Trichlorofluoromethane
44) 1,2,3-Trichloropropane
45) Vinyl acetate
46) Vinyl chloride
47) Xylenes

ENERGY LABORATORIES
877-472-0711 • 406-442-0711 • 406-442-0712 fax • helena@energylab.com

Energy Laboratories Inc
Workorder Receipt Checklist

H08040002

Hydrometrics Inc

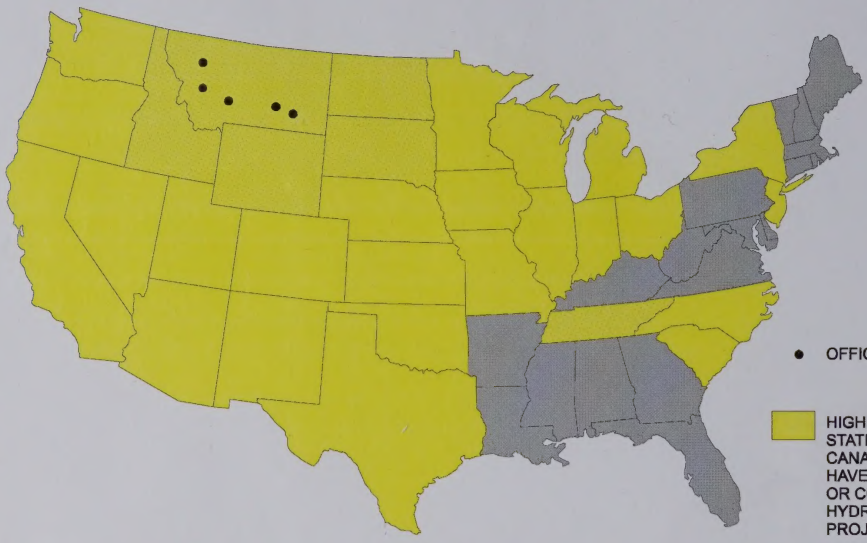
Login completed by: Roxanne L. Tubbs
Reviewed by: ~~tbb~~ JWH
Reviewed Date: 4/1/08

Date and Time Received: 4/1/2008 9:26 AM
Received by: rlt
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	4.0°C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Contact and Corrective Action Comments:

None



HYDROMETRICS, INC. MONTANA OFFICES

HELENA (Corporate)
3020 Bozeman Avenue
Helena, MT 59601
Phone: (406) 443-4150
FAX: (406) 443-4155

BILLINGS
5602 Hesper Road
Billings, MT 59106
Phone: (406) 656-1172
FAX: (406) 656-8912

MISSOULA
667 East Beckwith
Missoula, MT 59801
Phone: (406) 721-8243
FAX: (406) 542-2619

COLSTRIP
Phone: (406) 656-8305
Fax: (406) 656-8912

KALISPELL
300 Learn Lane
Kalispell, MT 59901
Phone: (406) 471-8635